A water filtration system includes an auxiliary filter assembly having a single inlet connected to the water lift tube of an undergravel filter and an outlet connected to a submersible electric water pump which causes the water within an aquarium to flow through both the undergravel filter and auxiliary filter assembly before being recirculated back into the aquarium.
WATER FILTRATION SYSTEM FOR AQUARIUMS

BACKGROUND OF THE INVENTION

This invention relates generally, as indicated, to a water filtration system for aquariums, and more particularly, to a system for providing auxiliary filtration of the water passing through an undergravel filter within an aquarium.

Filters of various types are commonly used for filtering impurities from the water in an aquarium which might otherwise be injurious or fatal to the aquatic life in the aquarium. One such filter consists of a canister filled with a suitable filter media, with openings in the sides of the canister through which water is continuously drawn by a submersible electric pump-connected to the canister outlet for recirculation in the aquarium.

Another filter in widespread use is an undergravel filter having a lift tube extending upwardly therefrom containing an air lift device or connected to a water pump which causes the water to flow through the undergravel filter and out through the lift tube for recirculation in the aquarium. If sized properly, such an undergravel filter should be fairly effective in keeping impurities in the water at a safe level. However, it would be advantageous to provide for additional filtering of the water as it is circulated through an undergravel filter.

SUMMARY OF THE INVENTION

With the foregoing in mind, it is a principal object of this invention to provide a water filtration system which causes auxiliary filtration of the water being circulated through an undergravel filter before the water is recirculated in the aquarium. To that end, the water filtration system of the present invention includes an auxiliary filter assembly having a single inlet connected to an undergravel filter lift tube and an outlet connected to a submersible electric pump which causes the water to flow through both the undergravel filter and auxiliary filter assembly before being recirculated back into the aquarium. The single inlet to the auxiliary filter assembly may include an adapter to facilitate attachment of the auxiliary filter assembly to lift tubes of different diameters. During installation, the upper end of the lift tube may be cut to a length such that when the pump and auxiliary filter assembly are connected to the lift tube, the pump discharge opening is slightly below the surface of the water in the aquarium.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail a certain illustrative embodiment of the invention, this being indicative, however, of but one of the various ways in which the principles of the invention may be employed.

BRIEF DESCRIPTION OF THE DRAWINGS

In the annexed drawings:
Fig. 1 is a fragmentary longitudinal section through a preferred form of water filtration system in accordance with this invention shown installed within an aquarium; and
Fig. 2 is an enlarged perspective view of a preferred form of submersible water pump and auxiliary filter assembly utilized in the water filtration system of Fig. 1.
A filtration system for aquariums comprising a submersible electric water pump having a bottom pump inlet and a top pump outlet, a filter assembly, and under-gravel filter means having a water lift tube extending upwardly therefrom, said filter assembly comprising a casing containing filter media, said casing having a casing outlet in one end in communication with said pump inlet, a single casing inlet in another end axially spaced from said one end, and means for releaseably connecting said single casing inlet to an upper open end of said water lift tube, said casing having a greater transverse cross-sectional interior area containing said filter media than the transverse internal cross-sectional area of said water lift tube.

Wherein said casing and said water lift tube are generally cylindrical, and said casing has a greater internal diameter than said water lift tube.

Wherein the internal diameter of said casing is approximately \(2\frac{1}{4}\) inches, and the internal diameter of said water lift tube is between approximately \(1\frac{1}{4}\) inch and \(1\frac{3}{4}\) inches.

Wherein means for connecting said single casing inlet to said upper open end of said water lift tube comprises adaptor means extending from said single casing inlet into said upper open end of said lift tube means.

Wherein said adaptor means has an external stepped surface for insertion into different diameter water lift tubes.

The filtration system of claim 1 wherein said casing is completely open at said one end to facilitate filling of said casing with said filter media, said one end being engageable with an external stepped shoulder on said pump radially outwardly of said pump inlet.

The filtration system of claim 6 wherein said filter media comprises a pair of foam layers separated by a carbon layer.

The filtration system of claim 1 wherein the combined height of said under-gravel filter means, water lift tube, filter assembly and water pump is such that said pump outlet is located just below the surface of the water in an aquarium.